



Dart Hawkesbury
1270 Aberdeen St Hawkesbury, ON K6A 1K7 Canada
Tel (613) 632-5200

Purchasing Receipts

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Serial No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total
P0039025	MES002-VC	1	1	Net 30	MT-1144-R3.600	1144 Steel Proof Round Bar 3.500"				12	2/23/2018	12		S045228	Stock	2/26/2018	\$ 72.70 / ft	0		\$87
		2			MT-1144-R2.760	1144 Steel Proof Round Bar 2.750"						12		S045229	Stock	2/26/2018	\$ 46.85 / ft	0		\$56
		3			M17-4-B1.000X02.000	17-4 SS Bar 1.00 x 2.00 : MATERIAL: 17-4 PH SS BAR AS PER AMS 5604/5643 GRAIN MUST BE ALONG LENGHT OF BAR MIN. YIELD TENSILE STRENGTH = 100 KSI MIN. ULTIMATE TENSILE STRENGTH = 150 KSI receive ft						12		S045230	Stock	2/26/2018	\$ 98.00 / ft	0		\$1.17
		4			M17-4-R2.000	M174R2.000 : 17-4 PH / S17400 / TYPE 630 SS ROUND BAR PER AMS 5643/ ASTM A564 GRAIN MUST BE ALONG LENGTH OF BAR MINIMUM YIELD TENSILE STRENGTH = 100 KSI MINIMUM ULTIMATE TENSILE STRENGTH = 150 KSI receive ft						12		S045231	Stock	2/26/2018	\$ 55.00 / ft	0		\$66
		5			MT-4140-B-0.625X3.000	4140 Steel Bar 0.625" x 3.000" : AISI 4140 STEEL BAR PER ASTM A29, AMS 6349, AMS 6382, AMS 6529, MIL-S-5626 MINIMUM ROCKWELL C = 28 RC MAXIMUM ROCKWELL C = 32 RC receive ft				4		4		S045232	Stock	2/26/2018	\$ 23.25 / ft	0		\$9
		6			MT-BRASS-C360-R2.500	Brass C360 Round Bar 2.500"					1		1		S045233	Stock	2/26/2018	\$ 195.00 / ft	0	
Total:										53		53								\$2,814

Plex 2/26/2018 8:43 AM Dart Dubois Pascal

Shipping Order

21/02/2018

METAUX SOLUTIONS INC
2625 BOUL JACQUES CARTIER EST
LONGUEUIL, QUEBEC
J4N 1L7
Tel.: 450 641-3330

Order : 132689
Reference : 39025
Ship : PICK UP / PICK UP

Customer: 6323336

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

Ship To

Same

Tel.: 1 613 632-3336

Item No.	Description	Qty	Qty. Deliver	B/O Qty
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N			
CR31244	1144 STRESSPROOF 3.500" DIA 1 X 12.33' HT;A174572	12.33	12.33	e
CR23444	1144 STRESSPROOF 2.750 DIA 1 X 12.17' HT;NF100789514	12.17	12.17	e
SF12174	17-4PH FLAT 1.000 X 2.000 2 X 72' ***** HT;271802	12	12	e
SR2174	17-4PH ROU 2" DIA 1 X 12.5' HT;308C	12.5	12.5	e
MP5841H	4140 HTSR TFA PLATE .625" P.M. 1 X 3" X 48" HT;PM72973	30	30	e
BR212	BRASS ROU 2.500 DIA 1 X 12" HT;17-04-30440-1	1	1	e

SHIP JOURNEY COLLECT
JP

1 BUNDLE
02-22-18
Pat Ansel

Shipping : _____
Package No : _____
Merchandise Received: _____

Ref. : _____



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO039025

Supplier: MES002-VC
Metaux Solutions
2625 boul Jacques-Cartier Est
Longueuil
QC
J4N 1L7 Canada
Phone: 800 558 8858
Fax: 514 633 8044

PO No: PO039025

PO Date: 2/13/18

Due Date: 2/23/18

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com

E-MAILED
FEB 13 2018

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

Items

Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	MT-1144-R3.500		1144 Steel Proof Round Bar 3.500"	Firmed	2/23/18	12 ft	0 ft	12 ft	\$72.70/ft	\$872.40
2	MT-1144-R2.750		1144 Steel Proof Round Bar 2.750"	Firmed	2/23/18	12 ft	0 ft	12 ft	\$46.85/ft	\$562.20
3	M17-4-B1.000X02.000		17-4 SS Bar 1.00 x 2.00 : MATERIAL: 17-4 PH SS BAR AS PER AMS 5604/5643 GRAIN MUST BE ALONG LENGHT OF BAR MIN. YIELD TENSILE STRENGTH = 100 KSI MIN. ULTIMATE TENSILE STRENGTH = 150 KSI receive ft	Firmed	2/23/18	12 ft	0 ft	12 ft	\$98.00/ft	\$1,176.00
4	M17-4-R2.000		M174R2.000 : 17-4 PH / S17400 / TYPE 630 SS ROUND BAR PER AMS 5643/ ASTM A564 GRAIN MUST BE ALONG LENGTH OF BAR MINIMUM YIELD TENSILE STRENGTH = 100 KSI MINIMUM ULTIMATE TENSILE STRENGTH = 150 KSI receive ft	Firmed	2/23/18	12 ft	0 ft	12 ft	\$55.00/ft	\$660.00
5	MT-4140-B-0.625X3.000		4140 Steel Bar 0.500 X 4.000 : AISI 4140 STEEL BAR PER ASTM A29, AMS 6349, AMS 6382, AMS 6529, MIL-S-5626 MINIMUM ROCKWELL C = 28 RC MAXIMUM ROCKWELL C = 32 RC receive ft	Firmed	2/23/18	4 ft	0 ft	4 ft	\$23.25/ft	\$93.00
6	MT-BRASS-C360-R2.500		Brass C360 Round Bar 2.500"	Firmed	2/23/18	1 ft	0 ft	1 ft	\$195.00/ft	\$195.00
Grand Total: \$3,558.60										

DAS
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9-8

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)
A026 certification of material conformance
A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness



Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 2/13/18 10:19 AM dart.lavoie.chantal

Jérôme Primeau

De: Chantal Lavoie <clavoie@dartaero.com>
Envoyé: Friday, February 9, 2018 8:31 AM
À: Jérôme Primeau
Cc: Daniel Paquette
Objet: quote

Good morning Jerome,
Please advise price and delivery on mat'l.

~~304 bar 0.125" x 0.750" x 12 ft 1.60/ft~~

~~1144 round bar 3.5" x 12 ft 72.70/ft~~

~~1144 round bar 2.750" x 12 ft 46.85/ft~~

~~4140 round bar 0.375" x 12 ft HT only 13.90/ft~~

~~01 bar 0.250" mx 0.378 (0.375)" x 8 ft OFFER 3 PCS OF 36" x 1/4 x 1/2 = 26.95/ft~~

~~1026
1010 round tubing 0.750" x 0.188" wall x 12 ft 8.05/ft~~

~~1018 bar 0.375" x 0.750" x 8 ft 12' 2.30/ft~~

~~1018 bar 0.375" x 0.750" x 8 ft 12' 2.30/ft~~

~~1018 bar 0.313" x 1.250" x 12 ft 3.35/ft~~

~~17-4 bar 1" x 2" x 12 ft OFFER 2x6' 98.00/ft~~

~~17-4 round bar 2" x 8 ft 12' only 55.00/ft~~

~~4140H round bar 0.500" x 96 ft R/R 3.95/ft~~

~~4130 ROUND BAR 0.3125 X 12 FT Request~~

~~4140 BAR 0.625" X 3" X 4 FT 93.00/PC 23.25~~

~~Brass C360 round bar 2.5" x minimum X 12' = 195.00/PC~~

~~Bronze 630 round bar 2.375" (or 2.5" x) minimum. X 13' 671.60/EA~~

Thanks
Chantal

~~Sand Cast~~

~~C-958~~

~~aircraft spec.~~
~~5/7 days~~

Chantal Lavoie
Purchasing Coordinator

DART AEROSPACE
T 1 613 632-5200
F 1 613 632-1053
E clavoie@dartaero.com

*Merci
Jérôme*



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO039025

Supplier: MES002-VC
Metaux Solutions
2625 boul Jacques-Cartier Est
Longueuil
QC
J4N 1L7 Canada
Phone: 800 558 8858
Fax: 514 633 8044

PO No: PO039025
PO Date: 2/13/18
Due Date: 2/23/18
**Purchase Order
Revision:**
Revision Date:
Ship-To Contact: Lavoie, Chantal
Phone: clavole@dartaero.com

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items										
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4	M17-4-R2.000		M174R2.000 : 17-4 PH / S17400 / TYPE 630 SS ROUND BAR PER AMS 5643/ ASTM A584 GRAIN MUST BE ALONG LENGTH OF BAR MINIMUM YIELD TENSILE STRENGTH = 100 KSI MINIMUM ULTIMATE TENSILE STRENGTH = 150 KSI receive ft	Firmed	2/23/18	12 ft	0 ft	12 ft	\$55.00/ft	\$660.00
5	MT-4140-B-0.625X3.000		4140 Steel Bar 0.500 X 4.000 : AISI 4140 STEEL BAR PER ASTM A29, AMS 6349, AMS 6382, AMS 6529, MIL-S-5626 MINIMUM ROCKWELL C = 28 RC MAXIMUM ROCKWELL C = 32 RC receive ft	Firmed	2/23/18	4 ft	0 ft	4 ft	\$23.25/ft	\$93.00
6	MT-BRASS-C360-R2.500		Brass C360 Round Bar 2.500"	Firmed	2/23/18	1 ft	0 ft	1 ft	\$195.00/ft	\$195.00
Grand Total:										\$3,558.60

Plex 2/13/18 10:19 AM dart.lavoie.chantal

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-Brass-C360-R2.500
 DATE: FEB 26 2018

PO / BATCH NO.: Q39025/5045233

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 1
 QUANTITY INSPECTED: 1
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 2.500
 THICKNESS RECEIVED: 2.500
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	Y (N)	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	Y (N)	
CORRECT MATERIAL PER M-DRAWING	Y (N)	<u>Astm B16</u>
CORRECT THICKNESS	Y (N)	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	Y (N)	<u>Heat # 17-04-50480-1</u>
CORRECT MATERIAL IDENTIFICATION	Y (N)	
CORRECT M# ON THE MATERIAL	Y (N)	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS 11</u>	SIGNED OFF BY: _____		
DATE: <u>FEB 26 2018</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

8 7 6 5 4 3 2 1

REV.	DESCRIPTION	ECN #	DATE	BY	APPROVED
A	NEW ISSUE	17-732	17.11.22	VM	WM

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL:

SPECIFICATION:

PART NUMBER:

EXAMPLE:

C360 BRASS
ASTM B16
MT-BRASS-C360-R-[D.DDD]

WHERE D.DDD IS DIAMETER IN INCHES

MT-BRASS-C360-R-0.250

TOLERANCES PER MANUFACTURER SPECIFICATIONS

DART AEROSPACE		Hamilton, Ontario, Canada	
TITLE: BRASS C360 ROUND BAR			
ECO NO.	REV	REV	
DESIGN BY:	MT-BRASS-C360-R	A	
DRAWN BY:	VM.11/10/2017	300 ± .005 FRACTIONS ± 1/16	
CHECKED:	SAC. 11/06/2017	X" ± .01	
INFO. APPR:	OP. 11/10/2017	X" ± .01	
APPROVED:	VM.11/10/2017	1. DIMENSIONS ARE IN INCHES	
DATE:	11/10/2017	2. INTERPRET DIM AND TOL PER	
SCALE:	NTS	3. DIMENSIONS APPLY	
WEIGHT:	N/A LBS	SHEET 1 OF 1	
COPYRIGHT © 2017 BY DART AEROSPACE LTD			
THIS DOCUMENT IS UNCLASSIFIED TO ANY OF THE FOUR UNCLASSIFIED IN AEROSPACE			
FOR ANY PURPOSE OR FOR ANY OF THE FOUR UNCLASSIFIED IN AEROSPACE			

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT4140-B-0.625x3.000

PO / BATCH NO: Q39025/6045232

DATE: FEB 26 2018

MATERIAL CERT REC'D: yes

THICKNESS ORDERED: 0.625x3.000

QUANTITY RECEIVED: 4'

THICKNESS RECEIVED: 0.625x3.250

QUANTITY INSPECTED: 4'

SHEET SIZE ORDERED: N/A

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: N/A

* acceptable
extra mat.
will be
machine off
XD 13-2-26

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	Austen A829
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	X (N)	
CORRECT REF # TO LINK CERT	(Y) N	Heat # Pm172973
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.
RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAK</u>	SIGNED OFF BY: _____		
DATE: <u>FEB 26 2018</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

MATERIAL :
 AISI 4140 / 4142 STEEL SHEET OR PLATE
 MINIMUM ROCKWELL C = 28 Rc
 MAXIMUM ROCKWELL C = 32 Rc
 ASTM A829, AMS 6395

PURCHASE MATERIAL : AISI 4140 / 4142 STEEL SHEET OR PLATE
MINIMUM ROCKWELL C = 28 Rc
MAXIMUM ROCKWELL C = 32 Rc

SPECIFICATION: ASTM A829, AMS 6395

PART NUMBER: MT-4140-S-[T.TTT] x [W.WWW]
WHERE "T.TTT" = THICKNESS IN INCHES
WHERE "W.WWW" = WIDTH IN INCHES (OPTIONAL FOR SPECIFYING CUT PLATE)

EX. 0.063" THICK SHEET = MT-4140-S-0.063
EX. 3.5" WIDE BY 0.500" THICK PLATE = MT-4140-S-0.500X3.500

TITLE	ANSI 4140 / 4142 STEEL SHEET OR PLATE		REV	A
	PART NO.		MT-4140-S	
TOOL NO.	-			
DESIGNED BY:	INITIALS AND DATE		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES INTERPRET PER ASME Y14.5-2009	
DRAWN BY:	WM 2/13/2018		TOLERANCES:	
CHECKED BY:	WM 02/13/2018		FRACTIONS: 1/8	
INFO REVIEW BY:	WM 02/13/2018		DECIMALS: .0005	
APPROVED BY:	DD 02/13/2018		ANGLES: 9.0°	
			SURFACE: 3.2	
			ROUNDS: .0008	
			SCALE: 1:1	
			SCALE: 1:1	
THIS DRAWING IS THE PROPERTY OF THE COMPANY AND IS LOANED TO YOU FOR YOUR PERSONAL USE ONLY. IT IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE COMPANY.				

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M17-4-R2.000
 DATE: FEB 26 2018

PO / BATCH NO.: 038025/5045231

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 12'
 QUANTITY INSPECTED: 12'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 2.000
 THICKNESS RECEIVED: 2.000
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	<u>Am55646 Am55643</u>
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	<u>Heat# 308C</u>
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> <u>11</u> DATE: <u>9-89 FEB 26 2018</u>	SIGNED OFF BY: _____ DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 17-4 PH / S17400 / TYPE 630 SS ROUND BAR
GRAIN MUST BE ALONG LENGTH OF BAR
MINIMUM YIELD STRENGTH PER TABLE
MINIMUM ULTIMATE STRENGTH PER TABLE

SPECIFICATION: AMS 5843 OR ASTM A564

PART NUMBER: M17-4-1 HHHH-R | X.XXX | WHERE: HHHH SPECIFIES THE MATERIAL CONDITION (PER TABLE BELOW)
X.XXX = DIAMETER (IN INCHES)

MATERIAL CONDITION TABLE:

CODE	CONDITION	MIN YIELD TENSILE STRENGTH (KSI)	MIN ULTIMATE TENSILE STRENGTH (KSI)
(OMITTED)	NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)	100	150
H900	H900	170	190
H925	H925	155	170
H1025	H1025	145	155
H1075	H1075	125	145
H1100	H1100	115	140
H1150	H1150	105	135
CONDA	CONDITION A (SOLUTION TREATED)		

NOTES: MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR TENSION OR SHEAR APPLICATIONS IN COLD WEATHER CONDITIONS
MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR APPLICATIONS WHERE STRESS CORROSION CRACKING IS POSSIBLE
CONDITION A NOT TO BE USED IN DESIGN FOR FINAL PRODUCT AND SHOULD ALWAYS BE HEAT TREATED

EXAMPLES:

PART NUMBER
4.000" DIAMETER BAR MIN UTS = 150 KSI, MIN YTS = 100 KSI
2.500" DIAMETER BAR H900 CONDITION
3.250" DIAMETER BAR H1025 CONDITION
0.750" DIAMETER BAR A CONDITION

RELEASED
2017-10-31
E(17-728)

APPROVED

C	ADDED MATERIAL CONDITION (CIR17-107)	NO	17.09.14
B	REFORMAT DWG. S17400/TYPE 630 ADDED TO PURCHASE MATERIAL (2N D8-1), ADD A564 SPEC (C8-1), REF PAR D8-020A	VS	10.05.20
A	NEW ISSUE	CP	05.03.16
REV.	DESCRIPTION	BY	DATE
DESIGN	NO		
DRAWN	NO		
CHECKED	CP		
MFG. APPR	RA		
APPROVED	WM		
DE APPR	CP		
DATE	17.09.14		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		REV. C	
DRAWING NO. M17-4-R		SHEET 1 OF 1	
TITLE 17-4 SS ROUND BAR		SCALE NTS	
COPYRIGHT © 1994 BY DART AEROSPACE LTD.		THIS DOCUMENT IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE IN THE MARGINS OF THIS DOCUMENT	

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M17-4-B1.000x02.000

PO / BATCH NO: 039025/6045230

DATE: FEB 26 2018

MATERIAL CERT REC'D: YES

THICKNESS ORDERED: 1.000

QUANTITY RECEIVED: 12'

THICKNESS RECEIVED: 1.000

QUANTITY INSPECTED: 12'

SHEET SIZE ORDERED: N/A

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y N	
CORROSION	Y <input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y N	<u>Ans 5643</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y N	
PHOTO REQUIRED	Y <input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y N	<u>Heat # 271802</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK.
RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS 11</u> DATE: <u>FEB 26 2018</u>		SIGNED OFF BY: _____ DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 17-4 PH / TYPE 630 / S17400 SS BAR
GRAIN MUST BE ALONG LENGTH OF BAR
MINIMUM YIELD STRENGTH PER TABLE
MINIMUM ULTIMATE STRENGTH PER TABLE

SPECIFICATION: AMS 5604 OR AMS 5643 OR ASTM A693 OR ASTM 564

PART NUMBER: M17-4- HHHH-B TTTT X WWWW
COND THICK WIDTH WHERE: HHHH SPECIFIES THE MATERIAL CONDITION (PER TABLE BELOW)
TTTT SPECIFIES THE THICKNESS
WWW SPECIFIES THE WIDTH

MATERIAL CONDITION TABLE:

CODE	CONDITION	MIN YIELD TENSILE STRENGTH (KSI)	MIN ULTIMATE TENSILE STRENGTH (KSI)
(OMITTED)	NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)	100	150
H900	H900	170	190
H925	H925	155	170
H1025	H1025	145	155
H1075	H1075	125	145
H1100	H1100	115	140
H1150	H1150	105	135
CONDA	CONDITION A (SOLUTION TREATED)		

NOTES: MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR TENSION OR SHEAR APPLICATIONS IN COLD WEATHER CONDITIONS
MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR APPLICATIONS WHERE STRESS CORROSION CRACKING IS POSSIBLE
CONDITION A NOT TO BE USED IN DESIGN FOR FINAL PRODUCT AND SHOULD ALWAYS BE HEAT TREATED

EXAMPLES:

PART
0.250" X 4.000" BAR MIN YTS = 150 KSI, MIN YTS = 100 KSI
1.000" X 2.500" BAR H900 CONDITION
0.500" X 3.250" BAR H1025 CONDITION
0.750" X 2.500" BAR A CONDITION

PART NUMBER
M17-4-B0-250X4.000
M17-4-H900-B1.000X2.500
M17-4-H1025-B0.500X3.250
M17-4-CONDA-B0.750X2.500

RELEASED
2017-10-31
EAM/17-728

APPROVED

B	ADD MATERIAL CONDITION AND REFORMAT DRAWING (CIR17-107)	NO	17.09.14
A	NEW ISSUE	DS	02.04.18
REV.	DESCRIPTION	BY	DATE
DESIGN	NO		
DRAWN	NO		
CHECKED	CP		
MFG. APPR	DD		
APPROVED	WM		
DE APPR	CP		
DATE	17.09.14		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M17-4-B			
SHEET 1 OF 1			
REV. B			
TITLE 17-4 SS BAR			
SCALE NTS			
DATE 17.09.14			
COPYRIGHT © 2003 BY DART AEROSPACE LTD. THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE LTD. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM DART AEROSPACE LTD.			

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-1144-R2.750
 DATE: FEB 23 2018

PO / BATCH NO: 039025/5045229

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 121
 QUANTITY INSPECTED: 121
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 2.750
 THICKNESS RECEIVED: 2.750
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	Astm A108
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	Heat # NF100789514
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> <u>11</u>	SIGNED OFF BY: <u>See attached</u>	
DATE: <u>9-89 FEB 23 2018</u>	DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

AISI 1144 StressProof®

Per MT-1144-R

It is acceptable to receive AISI 1144 StressProof® per the manufacturer's specification ASTM A108.
(Must meet A29 specifications, A29 covers A311 (AISI 1144))



Michael Lee

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-1144-R3.500
 DATE: FEB 23 2018

PO / BATCH NO.: Q39025/5045228

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 12'
 QUANTITY INSPECTED: 12'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 3.500
 THICKNESS RECEIVED: 3.500
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	<u>Aston A108</u>
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(N) N	<u>Heat # A174572</u>
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> <u>1</u> DATE: <u>9-8</u> FEB 23 2018	SIGNED OFF BY: <u>see attached</u> DATE:	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

AISI 1144 StressProof®

Per MT-1144-R

It is acceptable to receive AISI 1144 StressProof® per the manufacturer's specification ASTM A108.
(Must meet A29 specifications, A29 covers A311 (AISI 1144))



Michael Lee

CERTIFICATE OF TEST CERTIFICAT D'ESSAIS

Page 01 of 01

Certification Date
20-FEB-2018

CUSTOMER ORDER NUMBER
NUMÉRO DE COMMANDE DU CLIENT

44173-J

PART NUMBER/NUMÉRO DE PIÈCE

501954

Invoice Number
T376137

SOLD TO: METAUX SOLUTIONS INC.
VENDU À:

SHIP TO:
EXPÉDIÉ À:

METAUX SOLUTIONS (RIVE-SUD)

2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1L7

2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1

Description: 1144 CF BAR ASTM A108

3-1/2 RD X 12' R/L

HEAT: A174572

ITEM: 501954

Line Total: 399 LB

Specifications:

ASTM A108 13

ASTM A 29/A29M 15

CHEMICAL ANALYSIS

C	MN	P	S	SI	NI	CR	MO
0.43	1.38	0.004	0.259	0.23	0.06	0.12	0.02
CU	AL	V	NB	B			
0.16	0.001	0.004	0.001	0.0011			

RCPT: R385064

COUNTRY OF ORIGIN : USA

IDEAL DIAMETER : 2.19 IN

MATERIAL IS FREE FROM MERCURY CONTAMINATION
NO WELD REPAIR PERFORMED ON MATERIAL

COMMENTS

CAST BLOOM RED RATIO 14.0:1

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination. /Les informations ci-haut-mentionnées sont transcrites du certificat d'essais du manufacturier après vérification de l'état complet des spécifications inscrites sur le certificat. We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes. /Les informations fausses, fictives ou frauduleuses en rapport avec le résultat des essais sont punissables en vertu des lois fédérales.

Material did not come in contact with mercury while in our possession. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

JOANNE DESPRES



MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

CERTIFICATE OF TEST CERTIFICAT D'ESSAIS

Page 01 of 01

Certification Date
20-FEB-2018

CUSTOMER ORDER NUMBER
NUMÉRO DE COMMANDE DU CLIENT

44173-J

PART NUMBER/NUMÉRO DE PIÈCE

501948

Invoice Number
T376138

SOLD TO: METAUX SOLUTIONS INC.
VENDU À:

SHIP TO:
EXPÉDIÉ À:

METAUX SOLUTIONS (RIVE-SUD)

2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1L7

2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1

Description: 1144 CF BAR ASTM A108

2-3/4 RD X 12' R/L

HEAT: NFI00789514

ITEM: 501948

Line Total: 244 LB

Specifications:
ASTM A108

CHEMICAL ANALYSIS

C	MN	P	S	SI	CU	CR	NI
0.44	1.39	0.0090	0.273	0.19	0.13	0.09	0.06
MO	SN	V	CB	PB			
0.01	0.007	0.002	0.003	0.001			

RCPT: R379731

COUNTRY OF ORIGIN : USA

IDEAL DIAMETER : 2.01 IN

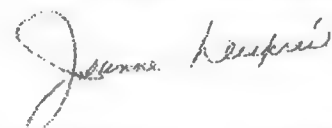
STRAND CAST REDUCTION RATIO 7.1 TO 1
MATERIAL IS FREE FROM MERCURY CONTAMINATION
NO WELD REPAIR PERFORMED ON MATERIAL

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination. /Les informations ci-haut-mentionnées sont transcrites du certificat d'essais du manufacturier après vérification de l'état complet des spécifications inscrites sur le certificat. We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

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Material did not come in contact with mercury while in our possession. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

JOANNE DESPRES



MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

CERTIFICATE OF TEST

CERTIFICAT D'ESSAIS

Page 01 of 02

Certification Date
20-FEB-2018

CUSTOMER ORDER NUMBER
NUMÉRO DE COMMANDE DU CLIENT

Invoice Number
T376139

44173-J
PART NUMBER/NUMÉRO DE PIÈCE
510539

SOLD TO: METAUX SOLUTIONS INC. SHIP TO: METAUX SOLUTIONS (RIVE-SUD)
VENDU À: 2625 BOUL JACQUES CARTIER EST EXPÉDIÉ À: 2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1L7 LONGUEUIL QC J4N 1

Description: 17-4 SOL ANN CF BAR ASTM A564
2 RD X 12' R/L Line Total: 133.625 LB
HEAT: 308C ITEM: 510539

Specifications:
AMS 5643 R ASTM A564 T630 13 ASME SA564 T630 07
ASTM F899 12B ASTM A484 14 AMS 2303 F

CHEMICAL ANALYSIS

C	CB	CO	CR	CU	MN	MO	N
0.019	0.1950	0.05	15.43	3.24	0.80	0.02	0.037
NI	P	S	SI	TA	TI	CBTA	
4.27	0.017	0.0265	0.50	0.005	0.002	0.20	

RCPT: R324374

COUNTRY OF ORIGIN : USA

MECHANICAL PROPERTIES

DESCRIPTION	YLD STR	ULT TEN	%ELONG	%RED	HARDNESS
COND A				IN AREA	BHN
					363
DESCRIPTION	YLD STR	ULT TEN	%ELONG	%RED	HARDNESS
DEV: H900 L	KSI	KSI	IN 02 IN	IN AREA	RC
	178.23	201.03	11.8	47.91	43

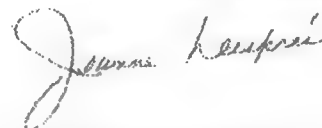
GRAIN SIZE : 9 -

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination. /Les informations ci-haut-mentionnées sont transcrites du certificat d'essais du fabricant après vérification de l'état complet des spécifications inscrites sur le certificat. We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes. /Les informations fausses, fictives ou frauduleuses en rapport avec le résultat des essais sont punissables en vertu des lois fédérales.

Material did not come in contact with mercury while in our possession. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

JOANNE DESPRES



MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

CERTIFICATE OF TEST CERTIFICAT D'ESSAIS

Page 02 of 02

Certification Date
20-FEB-2018

CUSTOMER ORDER NUMBER
NUMÉRO DE COMMANDE DU CLIENT

44173-J

PART NUMBER/NUMÉRO DE PIÈCE

510539

Invoice Number
T376139

SOLD TO: METAUX SOLUTIONS INC. SHIP TO:
VENDU À: EXPÉDIÉ À:
2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1L7

METAUX SOLUTIONS (RIVE-SUD)
2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1

Description: 17-4 SOL ANN CF BAR
2 RD X 12' R/L
HEAT: 308C ITEM: 510539

ASTM A564
Line Total: 133.625 LB

MATERIAL IS FREE FROM MERCURY CONTAMINATION
NO WELD REPAIR PERFORMED ON MATERIAL
MACRO: OK
MICRO: OK

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination. /Les informations ci-haut-mentionnées sont transcrites du certificat d'essais du manufacturier après vérification de l'état complet des spécifications inscrites sur le certificat. We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.
The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes. /Les informations fausses, fictives ou frauduleuses en rapport avec le résultat des essais sont punissables en vertu des lois fédérales.

Material did not come in contact with mercury while in our possession. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

JOANNE DESPRES



MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

Sales Order: 208136

Customer PO: 43765-JF

Product Description

MSP03750

Shipped Pcs

1.00

Shipped Lbs

558.00

Back Ordred

0.00

Drop Ship Ref:

PO LINE

3/8 X 34 1/8" X 144 1/4" MARSHALLOY STANDARD DELUXE PLATE 4140/42 PREHAF

MARSHALLOY STANDARD DELUXE

ASTM A-829

DFARS Compliant

PLATE#: 418382C

PM HEAT#: 84288 ✓

BHN 284.00

Country of Origin USA

C - 0.4300 Mn - 0.8200

P - 0.0070

Si - 0.2300

Ni - 0.0700

Cr - 0.8200 Mo - 0.1500

Cu - 0.1400

V - 0.0370

Product Description

MSP06250

Shipped Pcs

1.00

Shipped Lbs

905.00

Back Ordred

0.00

PO LINE

5/8 X 33 5/8" X 146" MARSHALLOY STANDARD DELUXE PLATE 4140/42 PREHARD

MARSHALLOY STANDARD DELUXE

ASTM A-829

DFARS Compliant

PLATE#: 416354A

PM HEAT#: 72973

BHN 276.00

Country of Origin SLOVENIA

C - 0.4300 Mn - 0.7710

P - 0.0100

S - 0.0010

Si - 0.2040

Ni - 0.1500

Cr - 1.0100 Mo - 0.1500

Cu - 0.2500

V - 0.0300

F

12 DEC 2011

Spécialisé

VA 6786186

31614-7.pdf

Certificate No. 2017-12-13-056 - 23

CERTIFICATE OF QUALITY

Customer : DAECHANG AMERICA INC.
 Specification : ASTM B16-10/249-12 C36000 H02
 Lot-No. : 17-04-30440-1
 Size : 2-1/2" x 12 FT
 Form : ROUND
 Weight : 786 kg
 Item ID :

Daechang Co., Ltd.
 15076, (Jeongwang-dong), 391,
 Gongdan1-daero, Siheung-Si
 Gyeonggi-do, Korea
 Tel. 82-31-496-3133
 Fax. 82-31-499-2531

Chemical Compositions

	Element(%)					
	Cu	Pb	Fe	Sn	Zn	
Max	63.00	3.00	0.35		Rem.	
Min	60.00	2.50			Rem.	
Results	60.4459	2.6881	0.1370	0.1549	Rem.	

Mechanical Properties

Test Item	Unit	Spec.	Results
Tensile Strength	Ksi		56
Yield Strength	Ksi		26
Elongation	(%)		50.5
Hardness	HRB		50.4
S.C.C*			Good

*S.C.C : Stress Corrosion Cracking
 (KS D5101, JIS H3250, ASTM B859)
 (Ammonia Vapor)

Dimension*

Check Terms	Unit	Results
Diameter	mm	63.49 ~ 63.51
Inner	mm	
Length	mm	3659 ~ 3661
Straightness	mm/m	3 ~ 3.5 / 3
Appearance	-	Good
Angle radius	-	Good
Final decision	-	O.K

*n=2, C=0

Remarks

P.O.NO : P031614

APPROVAL

[Signature]
 K.S. Jung

* This certificate is issued for the purpose of quality control.

* This certificate is a data of tested sample randomly and it is strictly forbidden to use for anything other purposes.

DAECHANG Co., Ltd.



CERTIFICATO DI COLLAUDO - ABNAHMEPRUEFZEUGNIS - INSPECTION CERTIFICATE - CERTIFICAT DE RECEPTION

In conformità a: EN 10204 (2004), 3.1 / ISO 10474 (2013), 3.1

Certificato nr. MEST065973 / 2017 /

Nachkassierung / Seen

Prüfung/Text/Exam



Stato di fornitura: Hot rolled Descaled COND. A Hot rolled
Lieferzustand:
Delivery state:
Etat de livraison:

Produttore:
Hersteller/Hersteller/Hersteller

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 50002 STOCK POMPTON

Bestell
Your order
Commande

Tipo di Elaborazione: E+AOD

Erzeugungszustand:
Working process:
Méthode d'élaboration:

Marchi di Fabbrica:

Zeichen/Gastl. Leuchtmittel:
Trade marks:
Signes de fabrique/production:



Conferma ordine nr: EI16006965

Werkz. Our Order Ref. nr.

Qualità: 630

Work stop/Grade/Qualité

Punzione del Collaudatore:

Stempel des Werkz. Sachverständigen:
Inspector's stamp/Prüfung der 1. Instanz:

MR

Avviso di Spedizione: D-VI17013196

Collocazione/Shipping instructions

Marcia: V174

Markenbezeichnung:
Brand/Markenname

Punzioneatura: 630

Markenbezeichnung:
Marking:
Markierung

SPECIFICHE:

Anforderungen / Requirements / Exigences

Notes:

Anforderungen / Notes / Notes

VSI FLAT 2. 630 A
AISI 630
AMS 2303 F
AMS 5643 D S17400 A
AMS F 6875 B NOVEMBER 2010
ASME SA564 2015 S17400 A (0)
ASTM A370 2015
ASTM A564 2013 S17400 A
ASTM F899 2012 630

(0)SECTION II P.T.A 2015 EDITION

Tolleranza: ASTM A484-16 TABLE 5

Tolleranza/Tolerance/Tolerance

Pos. nr. Pos. nr. No. position	Oggetto Gegenstand Product description Objekt	Dimensioni - In Abmessungen Dimensions Dimensions	Lunghezza - In Länge Length Longueur	Coletta Schweißnaht Weld Soudure	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Losnr. Lot no. Lot no.
0040	Flat	2.0000 x 1.0000	154/ 156	271802		3.572	627910810

TEST ALLO STATO DI FORNITURA

Test on delivery condition / Prüfung auf Lieferbereitem produkt / test a l'état de fourniture / Prueba sobre el material así como entregado

TEST	Proveita / Proveedor Lieferant/Supplier Fournisseur/Supplier Proveedor/Supplier	Pos. Saggio Probenahme Sampling Muestreo	Snervamento Zugversuch Tensile strength Essai de traction	Snervamento Zugversuch Tensile strength Essai de traction	Resistenza Zugversuch Tensile strength Essai de traction	Allungamento Bruchversuch Elongation Elongation	Strizione Bruchversuch Reduction of area Striction	Resilienza Kerbschlagversuch Impact energy Resilience	Durezza Härte Hardness HB
Valori richiesti Anforderungen/Requirements/Exigences Valeurs demandées		min max							
A									348

TEST ALLO STATO DI FORNITURA

Test on delivery condition / Prüfung auf Lieferbereitem produkt / Test a l'état de fourniture / Prueba sobre el material así como entregado

TEST	min	max
A Delta Ferrite		5,0
A Grain size for ASTM E112		1,0 %
A RATINGS FREQUENCY		6
A RATINGS SEVERITY		0

Vicenza, 08/05/17

VC0008 - MEST065973

(Mod. MCE2)

Il collaudatore di stabilimento / der Werkz. Sachverständige / Works Inspector / L'agent d'usine

M. RIZZOTTO

Pagina - 1 di 3



CERTIFICATO DI COLLAUDO - ABNAHMEPRUEFZEUGNIS - INSPECTION CERTIFICATE - CERTIFICAT DE RECEPTION

In conformità a: EN 10204 (2004), 3.1 / ISO 10474 (2013), 3.1

Certificato nr. MEST065973 / 2017 /
Prüfung/Exam/Exa:

Stato di fornitura: Hot rolled Descalo COND. A Hot
Lieferzustand: rolled
Delivery state:
Etat de livraison:

Produttore:
Hersteller/Produktions

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 50002 STOCK POMPTON
Bestell-Nr:
Yield order:
Commande:

Tipo di Elaborazione: E+AOD
Erzeugnisbezeichnung:
Using process:
Mode d'élaboration:

Marchi di Fabbrica:
Zeichen des Unternehmens:
Trade marks:
Signes de l'usine productrice:



Conferma ordine nr: EI16006965
Werkbest.-Nr./Order Refr.:

Qualità: 630
Werkstoff-Grade/Qualité:

Punzone del Collaudatore:
Stempel des Werkstoffverständigen:
Inspector's stamp/Plaque de l'inspecteur:

MR

Avviso di Spedizione: D-VI17013196
Lieferungs-/Versandbezeichnung:

Marca: V174
Marken-Bezeichnung:
Brand / Marque:

Punzonatura: 630
Kennzeichnung:
Marking:
Marquage:

Sample cond. H900

Tipo Trattamento	Temperatura	Raffreddamento	Permanenza	Tipo Trattamento	Temperatura	Raffreddamento	Permanenza	Tipo Trattamento	Temperatura	Raffreddamento	Permanenza
Heat treatment	Temperature	Quenching	Retention	Heat treatment	Temperature	Quenching	Retention	Heat treatment	Temperature	Quenching	Retention
Traitement thermique	Température	Refroidissement	Durée	Traitement thermique	Température	Refroidissement	Durée	Traitement thermique	Température	Refroidissement	Durée
Forma	Forma	Forma	Forma	Forma	Forma	Forma	Forma	Forma	Forma	Forma	Forma
PROVETTA	PROVETTA	PROVETTA	PROVETTA	PROVETTA	PROVETTA	PROVETTA	PROVETTA	PROVETTA	PROVETTA	PROVETTA	PROVETTA
Specimen/Éprouvette	Specimen/Éprouvette	Specimen/Éprouvette	Specimen/Éprouvette	Specimen/Éprouvette	Specimen/Éprouvette	Specimen/Éprouvette	Specimen/Éprouvette	Specimen/Éprouvette	Specimen/Éprouvette	Specimen/Éprouvette	Specimen/Éprouvette
Longitudinale	Longitudinale	Longitudinale	Longitudinale	Longitudinale	Longitudinale	Longitudinale	Longitudinale	Longitudinale	Longitudinale	Longitudinale	Longitudinale
Transversale	Transversale	Transversale	Transversale	Transversale	Transversale	Transversale	Transversale	Transversale	Transversale	Transversale	Transversale
°F	°F	°F	°F	°F	°F	°F	°F	°F	°F	°F	°F
Snervimento	Snervimento	Snervimento	Snervimento	Snervimento	Snervimento	Snervimento	Snervimento	Snervimento	Snervimento	Snervimento	Snervimento
Yield strength	Yield strength	Yield strength	Yield strength	Yield strength	Yield strength	Yield strength	Yield strength	Yield strength	Yield strength	Yield strength	Yield strength
Rp 0,2%	Rp 0,2%	Rp 0,2%	Rp 0,2%	Rp 0,2%	Rp 0,2%	Rp 0,2%	Rp 0,2%	Rp 0,2%	Rp 0,2%	Rp 0,2%	Rp 0,2%
K _{0,2}	K _{0,2}	K _{0,2}	K _{0,2}	K _{0,2}	K _{0,2}	K _{0,2}	K _{0,2}	K _{0,2}	K _{0,2}	K _{0,2}	K _{0,2}
Resistenza	Resistenza	Resistenza	Resistenza	Resistenza	Resistenza	Resistenza	Resistenza	Resistenza	Resistenza	Resistenza	Resistenza
Tensile strength	Tensile strength	Tensile strength	Tensile strength	Tensile strength	Tensile strength	Tensile strength	Tensile strength	Tensile strength	Tensile strength	Tensile strength	Tensile strength
Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm
kN/mm ²	kN/mm ²	kN/mm ²	kN/mm ²	kN/mm ²	kN/mm ²	kN/mm ²	kN/mm ²	kN/mm ²	kN/mm ²	kN/mm ²	kN/mm ²
Allungamento	Allungamento	Allungamento	Allungamento	Allungamento	Allungamento	Allungamento	Allungamento	Allungamento	Allungamento	Allungamento	Allungamento
Elongation	Elongation	Elongation	Elongation	Elongation	Elongation	Elongation	Elongation	Elongation	Elongation	Elongation	Elongation
E 4d	E 4d	E 4d	E 4d	E 4d	E 4d	E 4d	E 4d	E 4d	E 4d	E 4d	E 4d
%	%	%	%	%	%	%	%	%	%	%	%
Strizione	Strizione	Strizione	Strizione	Strizione	Strizione	Strizione	Strizione	Strizione	Strizione	Strizione	Strizione
Reduction of area	Reduction of area	Reduction of area	Reduction of area	Reduction of area	Reduction of area	Reduction of area	Reduction of area	Reduction of area	Reduction of area	Reduction of area	Reduction of area
RA	RA	RA	RA	RA	RA	RA	RA	RA	RA	RA	RA
%	%	%	%	%	%	%	%	%	%	%	%
Resilienza	Resilienza	Resilienza	Resilienza	Resilienza	Resilienza	Resilienza	Resilienza	Resilienza	Resilienza	Resilienza	Resilienza
Impact strength	Impact strength	Impact strength	Impact strength	Impact strength	Impact strength	Impact strength	Impact strength	Impact strength	Impact strength	Impact strength	Impact strength
Resilienza	Resilienza	Resilienza	Resilienza	Resilienza	Resilienza	Resilienza	Resilienza	Resilienza	Resilienza	Resilienza	Resilienza
Charpy	Charpy	Charpy	Charpy	Charpy	Charpy	Charpy	Charpy	Charpy	Charpy	Charpy	Charpy
J	J	J	J	J	J	J	J	J	J	J	J
Durezza	Durezza	Durezza	Durezza	Durezza	Durezza	Durezza	Durezza	Durezza	Durezza	Durezza	Durezza
Hardness	Hardness	Hardness	Hardness	Hardness	Hardness	Hardness	Hardness	Hardness	Hardness	Hardness	Hardness
HB	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB
Valori richiesti	Valori richiesti	Valori richiesti	Valori richiesti	Valori richiesti	Valori richiesti	Valori richiesti	Valori richiesti	Valori richiesti	Valori richiesti	Valori richiesti	Valori richiesti
min	min	min	min	min	min	min	min	min	min	min	min
max	max	max	max	max	max	max	max	max	max	max	max
B	12,5	68	L	183	201	18	54	431			

Mechanical properties according to ASTM A370.

Della Ferrite according to AMS 2315.

Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique

Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel
EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN
EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN
C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %	Ta %				
271802	0,032	0,45	0,50	15,15	0,17	3,31	4,66	0,065	0,024	0,001	0,038	0,0001			
Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel
EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN
EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN	EN
Nb+Ta %	Nb+Ta %	Nb+Ta %	Nb+Ta %	Nb+Ta %	Nb+Ta %	Nb+Ta %	Nb+Ta %	Nb+Ta %	Nb+Ta %	Nb+Ta %	Nb+Ta %	Nb+Ta %	Nb+Ta %	Nb+Ta %	Nb+Ta %
271802	0,278	0,278	0,278	0,278	0,278	0,278	0,278	0,278	0,278	0,278	0,278	0,278	0,278	0,278	0,278

Micro and macro etch test: satisfactory.

Produced without class I-II Ozone depleting substances.

Macroetch test per ASTM E340: acceptable.

Furnace calibrated according to AMS-H-6875.

Pyrometry in accordance with AMS2750.

Reduction ratio = 25,1 : 1

Material solution annealed 1904°F for 1 h,

air cooled to below 90°F.

Material is DFARS Compliant

Sono state soddisfatte tutte le condizioni richieste
Die gestellten Anforderungen sind in Anlage erfüllt
The material has been furnished in accordance with the requirements
Le matériels a été fourni conforme aux exigences

Controllo antimescolanze: OK
Vermischungsprüfung: zufriedenstellend
Anmixing testing performed: OK
Controllo antimescolanze: OK

Controllo visivo e dimensionale: soddisfa le esigenze
Bauaufg. und Abmessung: ohne Beanstandung
Visual inspection and dimensional check satisfactory
Contrôle visuel et dimensionnel: satisfaisant

Vicenza, 08/05/17

VCC008 - MEST065973

(Mod. MCE2)

Il collaudatore di stabilimento / der Werkstoffverständige / Works inspector / L'agent d'usine

M. RIZZOTTO

Pagina - 2 di 3



Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.1
Telefono 0444.968211 - Fax 0444.968336
Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4/37
Telefono 0471.924111 - Fax 0471.924497

CERTIFICATO DI COLLAUDO - ABNAHMEPRUEFZEUGNIS - INSPECTION CERTIFICATE - CERTIFICAT DE RECEPTION

In conformità a: EN 10204 (2004), 3.1 / ISO 10474 (2013), 3.1

Certificato nr. MEST065973 / 2017 /

Nach: According to Spec.

Prüfung: To: U.E. 3.1.2

Stato di fornitura: Hot rolled Descaud COND. A Hot
Lieferzustand: rolled
Delivery state:
Einsatzbezeichnung:

Produttore:
Hersteller: Acciaierie Valbruna

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr. 50002 STOCK POMPTON

Bestell:
Your order:
Commande:

Conferma ordine nr. EI16006965

Bestätigung: Order No. 65

Avviso di Spedizione: D-V117013196

Lieferanweisung: Packing sheet L

Tipo di Elaborazione: E+AOD

Erzeugnisbezeichnung:
Making process:
Name of elaboration:

Qualità: 630

Verfahren: Bruchdehnung

Marca: V174

Markenbezeichnung:
Name / Brand:

Marchi di Fabbrica:

Zeichen der Fabrik:
Trade marks:
Signes de fabrique productrice

AV

Punzone del Collaudatore:

Stempel des Werkstoffverständigen:
Inspector's stamp: Pompton del 11/05/17

MR

Punzonatura: 630

Markierung:
Marking:
Markage:

Melted and manufactured in Italy No welding or weld repair Material free from Mercury contamination

We declare that the finished product is checked for radioactive contamination through Portal System when it leaves the production plant.

QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2008, ISO/TS16949 : 2009, AS 9100C

The Quality Management System is Certified acc. Pressure Equipment Directive (97/23/EC) Annex 1, s. 4.3 and 2014/68/EU by TÜV and LLOYD'S

Any act of tampering, modification, alteration, counterfeiting and/or falsification and/or any other action which modifies the contents of this test certificate shall constitute a violation of applicable civil and criminal laws. Acciaierie Valbruna shall protect its rights and interests before any competent court, authority and jurisdiction.

Maximal and/or Valplus grades/products are manufactured with ladle techniques to control composition, distribution, size and shape of non-metallic inclusions for improved machinability.

The supplied product conforms to requirements expressly requested by the purchaser and conforms to requirements specified by certified norms and standards. Should the product be used for more severe, critical and/or in any case different applications than those the material is generally intended for, any different and/or supplementary requirements shall be specifically demanded, at least, upon order of the Product by the Purchaser. Acciaierie Valbruna SpA shall not be responsible for any improper use of the Products.

Vicenza, 08/05/17

VCO038 - MEST065973

0444 MCE2)

Il collaudatore di stabilimento / der Werkstoffverständige / Works Inspector / L'agent d'usine

M. RIZZOTTI

Pagina - 3 di 3